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Nicholas G. Duffield

Duffield 2003-0207

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EXAMINER

MAIS, MARK A

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/764,001	Applicant(s) DUFFIELD ET AL.	
	Examiner MARK A. MAIS	Art Unit 2419	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 April 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 19-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 19-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1 and 19-31 are rejected under 35 U.S.C. 102(e) as being anticipated by Ford (USP 7,433,943).

3. With regard to claim 1, Ford discloses a method for assigning packets belonging to traffic of a network to different quality of service (QoS) treatments [**Figs. 1, 2, and 8, controlling traffic within a network**], comprising the steps of

receiving a packet that may be characterized by a plurality of attributes [**Figs. 1, 2, and 8, packet processor 130 within bandwidth management device 30 receives packets and checks source/destination IP addresses, col. 14, lines 26-31**] , and

assigning the packet to preselected QoS treatment *relative to flow inside said network* [**packet movement to/from local area network 40, col. 4, lines 49-51**] from a set of QoS

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treatments, based on a preselected set of said attributes of the packet [**allows regular use or degrades network usage, col. 9, lines 27-32**], in accordance with a set of rules that was created pursuant to a statistical analysis of traffic in the network [**Figs. 1, 2, and 8, measurement engine 140 within bandwidth management device 30 samples data flows measuring bandwidth utilization with respect to a plurality of utilization statistics, col. 7, lines 54-59; each traffic class has bandwidth utilization controls, col. 9, lines 24-27**].

4. With regard to claim 19, Ford discloses that said set of rules is created to map each class of traffic [**traffic classes can grouped by application, protocol, IP address, Mac address, port, etc., col. 8, lines 11-15**] from a preselected set of traffic classes to specified QoS treatment [**policies are based on priority, rate, discard, and redirection, col. 7, lines 28-53; traffic classes are saved and matched with each data flow, col. 8, lines 43-46; traffic classes for known users, unknown users, and quarantined users, col. 8, line 66 to col. 9, line 5**];

said traffic classes are characterized by value ranges of one or more of said attributes [**traffic classes range from known users, unknown users, and quarantined users, col. 8, line 66 to col. 9, line 5**]; and

said characterization of said classes by said value ranges of one or more of said attributes is established through statistical analysis of a corpus of training traffic [**Figs. 1, 2, and 8, measurement engine 140 within bandwidth management device 30 samples data flows measuring bandwidth utilization with respect to a plurality of utilization statistics, col. 7, lines 54-59; each traffic class has bandwidth utilization controls, col. 9, lines 24-27**].

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5. With regard to claim 20, Ford discloses that the statistical analysis that establishes said characterization identifies said value ranges that create groupings of said one or more of said attributes **[traffic classes for known users, unknown users, and quarantined users, col. 8, line 66 to col. 9, line 5]**.

6. With regard to claim 21, Ford discloses that each class of traffic from said set of traffic classes comprises one or more applications taken from a set that includes interactive applications, bulk data transfer applications, transactional applications, and streaming applications **[for example, PeopleSoft, col. 7, line 16; Napster, peer-to-peer sharing software, FTP, and HTTP, col. 9, lines 50-52]**.

7. With regard to claim 22, Ford discloses that the network is a target network that is part of a larger network, and said set of rules that map each class of traffic to specified QoS treatment is under control of an administrator of said target network **[Figs. 1, 2, and 8, Administrator interface 150 within bandwidth management device 30 and user management server 44 allows modification of network parameters, col. 5, lines 34-48 and col. 10, lines 1-16]**.

8. With regard to claim 23, Ford discloses that the corpus of training traffic includes traffic *of* more than said target network **[Fig. 8, traffic may be split into networks 47 and 48, col. 17, lines 32-47]**.

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9. With regard to claim 31, Ford discloses that the different QoS treatments are pre-established QOS classes of service **[allows regular use or degrades network usage, col. 9, lines 27-32]**, and the set of rules is derived in an analysis session relative to traffic of said network for later application to map packet flows to said classes of service **[Figs. 1, 2, and 8, measurement engine 140 within bandwidth management device 30 samples data flows measuring bandwidth utilization with respect to a plurality of utilization statistics, col. 7, lines 54-59; each traffic class has bandwidth utilization controls, col. 9, lines 24-27]**.

10. With regard to claim 24, Ford discloses that the attributes are reflected in one or more fields in a header of said packet **[Figs. 1, 2, and 8, packet processor 130 within bandwidth management device 30 receives packets and checks the packet header for source/destination IP addresses, col. 14, lines 26-31]**.

11. With regard to claim 25, Ford discloses that the corpus of training traffic contains traffic of with a known set of applications **[for example, PeopleSoft, col. 7, line 16; Napster, peer-to-peer sharing software, FTP, and HTTP, col. 9, lines 50-52]**.

12. With regard to claim 26, Ford discloses a method for developing a corpus of data for creating set of rules for assigning packets for different QoS treatments **[Figs. 1, 2, and 8, controlling traffic within a network]**, comprising the steps of:

selecting a set of classes **[traffic classes can grouped by application, protocol, IP address, Mac address, port, etc., col. 8, lines 11-15]**;

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selecting a set of applications [**for example, PeopleSoft, col. 7, line 16; Napster, peer-to-peer sharing software, FTP, and HTTP, col. 9, lines 50-52**], where each of said applications unambiguously belongs to only one of said classes, and where said set is such that every one of said classes is covered by at least one of the application in the set [**policies are based on priority, rate, discard, and redirection, col. 7, lines 28-53; traffic classes are saved and matched with each data flow, col. 8, lines 43-46; traffic classes for known users, unknown users, and quarantined users, col. 8, line 66 to col. 9, line 5**];

selecting a set of traffic features, each definable from computable analysis of a packet or a flow of packets [**bytes/flow per IP address, col. 6, lines 21-24; average rate, peak rate, total inbound/outbound packets, network efficiency, col. 7, line 63 to col. 8, line 1**];

capturing traffic in a training network, which traffic belongs to applications that are included in said set [**bytes/flow per IP address, col. 6, lines 21-24; average rate, peak rate, total inbound/outbound packets, network efficiency, col. 7, line 63 to col. 8, line 1**]; and

performing statistical analysis of the captured traffic [**Figs. 1, 2, and 8, measurement engine 140 within bandwidth management device 30 samples data flows measuring bandwidth utilization with respect to a plurality of utilization statistics, col. 7, lines 54-59; each traffic class has bandwidth utilization controls, col. 9, lines 24-27**].

13. With regard to claim 27, Ford discloses that the step of performing statistical analysis comprises the steps of:

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selecting one or more packet attributes [**Figs. 1, 2, and 8, packet processor 130 within bandwidth management device 30 receives packets and checks the packet header for source/destination IP addresses, col. 14, lines 26-31];**

analyzing said captured traffic to create statistical information for each value of said one or more packet attributes, which statistical information pertains to the selected set of features [**bytes/flow per IP address, col. 6, lines 21-24; average rate, peak rate, total inbound/outbound packets, network efficiency, col. 7, line 63 to col. 8, line 1]; and**

classifying each of said values of said one or more packet attributes into one of the classes [**policies are based on priority, rate, discard, and redirection, col. 7, lines 28-53; traffic classes are saved and matched with each data flow, col. 8, lines 43-46; traffic classes for known users, unknown users, and quarantined users, col. 8, line 66 to col. 9, line 5]** based on a selected algorithm that investigates said statistical information for each of said values of said one or more packet attributes [**Figs. 1, 2, and 8, measurement engine 140 within bandwidth management device 30 samples data flows measuring bandwidth utilization with respect to a plurality of utilization statistics, col. 7, lines 54-59; each traffic class has bandwidth utilization controls, col. 9, lines 24-27].**

14. With regard to claim 28, Ford discloses a step of mapping said classes to QoS treatments [**allows regular use or degrades network usage, col. 9, lines 27-32].**

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15. With regard to claim 29, Ford discloses that the step of analyzing to create statistical information creates said statistical information recursively [**sampling occurs every minute or over any desired interval, col. 8, lines 4-10**].

16. With regard to claim 30, Ford discloses that the step of analyzing analyzes traffic of a predetermined time interval of data [**sampling occurs every minute or over any desired interval, col. 8, lines 4-10**].

Response to Arguments

17. Applicant's arguments filed on April 23, 2009 have been fully considered but they are not persuasive.

18. With respect to claim 1, Applicants state that claim 1's preamble dictates a method and that "[Figs. 1, 2, and 8, controlling traffic within a network]" may only dictate a structure [See Applicants' Amendment dated April 23, 2009, page 5, paragraph 2]. Applicants argue, apparently, that "controlling traffic within a network" cannot include Applicants' "method for assigning packets belonging to traffic of a network to different quality of service (QoS) treatments" [See Applicants' Amendment dated April 23, 2009, page 5, paragraph 2]. The examiner respectfully disagrees.

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19. “Controlling traffic within a network” includes a myriad of possible methods to include at least Applicants’ preamble. The examiner notes the broadest reasonable interpretation with respect to Applicants’ specification.

20. With respect to claim 1, Applicants state that although bandwidth management device 30 impacts traffic on local area network 40, bandwidth management device 30 fails to control the traffic [See Applicants’ Amendment dated April 23, 2009, page 5, paragraph 3]. Applicants argue, apparently, that bandwidth management device 30 merely controls the data flows that enter through it (bandwidth management device 30) to/from local area network 40 and thus, fails to control all traffic on local area network 40 [See Applicants’ Amendment dated April 23, 2009, page 5, paragraphs 3-4]. The examiner respectfully disagrees.

21. First, as noted in the rejection of claim 1 above, Ford discloses regular use or degrades network usage of traffic to/from local area network 40 [col. 4, lines 49-51; col. 9, lines 27-32].

22. Second, in response to applicant's argument that the references fail to show certain features of applicant’s invention, it is noted that the features upon which applicant relies (i.e., controlling all traffic of the network) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

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23. With respect to claim 1, Applicants state that claim 1 creates a set of rule “pursuant to a statistical analysis of traffic in the network” and argue, apparently, that the cited “utilization statistics” cannot create a rule based on such statistics [See Applicants’ Amendment dated April 23, 2009, page 5, paragraph 5 to page 6, paragraph 4]. The examiner respectfully disagrees.

24. As noted in the rejection of claim 1 above, Ford discloses that measurement engine 140 within bandwidth management device 30 samples data flows measuring bandwidth utilization with respect to a plurality of utilization statistics [Figs. 1, 2, and 8; col. 7, lines 54-59] and that each traffic class has bandwidth utilization controls [col. 9, lines 24-27]. Furthermore, the rule of degrading performance for quarantined users creates the corresponding rule of ensuring appropriate bandwidth usage for non-quarantined users (based on utilization statistics) [col. 9, lines 27-41].

25. With respect to claim 1, Applicants state that amended claim 1 recites “QOS treatment that pertains to traffic of the network” and argues, apparently, that this must be interpreted as previously-argued “all traffic of the network” [See Applicants’ Amendment dated April 23, 2009, page 6, paragraphs 5-6]. The examiner respectfully disagrees.

26. After careful reconsideration, the claimed “traffic of the network” is not interpreted by the examiner as “all traffic of the network.” The examiner notes the broadest reasonable interpretation with respect to Applicants' Specification.

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27. With respect to claim 19, Applicants state that Ford does not disclose training traffic [**See Applicants' Amendment dated April 23, 2009, page 6, paragraphs 7-8**]. Specifically, Applicants argue, apparently, that training traffic cannot be interpreted as actual traffic [**See Applicants' Amendment dated April 23, 2009, page 6, paragraph 8**]. The examiner respectfully disagrees.

28. First, as noted in the rejection of claim 19 above, Ford discloses that measurement engine 140 within bandwidth management device 30 samples data flows measuring bandwidth utilization with respect to a plurality of utilization statistics [**Figs. 1, 2, and 8; col. 7, lines 54-59**] and that each traffic class has bandwidth utilization controls [**col. 9, lines 24-27**].

29. Second, in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., training traffic cannot be actual traffic) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). The examiner noted the broadest reasonable interpretation of training traffic with respect to Applicants' Specification.

30. With respect to claim 20, Applicants state that the claim recites attributes, values of an attribute, and ranges of those values [**See Applicants' Amendment dated April 23, 2009, page**

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7, paragraphs 1-2]. Specifically, Applicants argue, apparently, that Ford fails to disclose a "value ranges" and analogizes using IP addresses as an attribute [**See Applicants' Amendment dated April 23, 2009, page 7, paragraphs 1-2**]. The examiner respectfully disagrees.

31. As noted in the rejection of claim 20 above, Ford discloses traffic classes for known users, unknown users, and quarantined users [**col. 8, line 66 to col. 9, line 5**]. For example, using an analogy similar to Applicants' (analogy), the attribute of IP addresses (or some other user ID) of known users includes the entire range of known IP addresses (or user IDs) and belong to "known class" except for unknown users and quarantined users—which belong to "unknown class" and "quarantined class", respectively.

32. With respect to claim 22, Applicants state that the network of claim 1 is part of a larger network and argue, apparently, that the QOS treatment is not relative to local area network 40 [**See Applicants' Amendment dated April 23, 2009, page 7, paragraph 3**]. Applicants re-assert the argument that that bandwidth management device 30 merely controls the data flows that enter through it (bandwidth management device 30) to/from local area network 40 and thus, fails to control all traffic on local area network 40 [**See Applicants' Amendment dated April 23, 2009, page 7, paragraph 3**]. The examiner respectfully disagrees.

33. First, as noted in the rejections of claim 1 and 22 above, Ford discloses packet movement to/from local area network 40 (target network—part of larger network 50) [**col. 4, lines 49-51**] and that Administrator interface 150 within bandwidth management device 30 and user

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management server 44 allows modification of network parameters [**Figs. 1, 2, and 8; col. 5, lines 34-48 and col. 10, lines 1-16**]. Thus, the QOS treatment is relative to local area network 40.

34. Second, in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., controlling all traffic of the network) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

35. With respect to claim 23, Applicants state that "corpus of training traffic" must be a fixed amount of traffic and argue, apparently, that it cannot be a continuous stream of traffic [**See Applicants' Amendment dated April 23, 2009, page 7, paragraph 4 to page 8, paragraph 1**]. Applicants further state that claim 23 requires training traffic of more than the target network and argue, apparently, that Ford does not disclose such a limitation [**See Applicants' Amendment dated April 23, 2009, page 8, paragraph 1**]. Applicants again argue, apparently, that training traffic cannot be interpreted as actual traffic [**See Applicants' Amendment dated April 23, 2009, page 8, paragraph 1**]. The examiner respectfully disagrees.

36. First, as noted in the rejection of claim 23 above, Ford discloses that training traffic may be split into networks 47 and 48 [**Fig. 8; col. 17, lines 32-47**]. Moreover, management server 44 collects aggregate bandwidth utilization data [**col. 17, lines 17-31**]. Furthermore, the aggregate

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bandwidth utilization data is taken over a discrete time period—this is interpreted as a body (corpus—not continuous) of training traffic.

37. Second, in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., training traffic cannot be actual traffic) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). The examiner noted the broadest reasonable interpretation of training traffic with respect to Applicants' Specification.

38. With respect to claim 26, Applicants state that Ford fails to disclose three different steps in the recited claim [See Applicants' Amendment dated April 23, 2009, page 8, paragraph 2]. Applicants state that Ford fails to disclose a training network [See Applicants' Amendment dated April 23, 2009, page 8, paragraph 2]. Applicants seem to be re-stating the previous argument that training traffic cannot be actual traffic [See Applicants' Amendment dated April 23, 2009, page 8, paragraph 2]. Applicants again argue that bandwidth management device 30 merely controls the data flows that enter through it (bandwidth management device 30) to/from a local area network and thus, fails to control all traffic in that local area network and thus, fails to control all traffic in that local area network [See Applicants' Amendment dated April 23, 2009, page 8, paragraph 2]. The examiner respectfully disagrees.

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39. Second, in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., controlling all traffic of the network) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

40. As noted in the rejection of claim 26 above, Ford selects traffic classes and groups them by specific application [**col. 8, lines 11-15**]. For example, Ford further selects a set of applications such as PeopleSoft [**col. 7, line 16**], Napster, peer-to-peer sharing software, FTP, and HTTP [**col. 9, lines 50-52**]. Ford further discloses a set of definable packet-flow traffic features [**bytes/flow per IP address, col. 6, lines 21-24; average rate, peak rate, total inbound/outbound packets, network efficiency, col. 7, line 63 to col. 8, line 1**]. As noted in Figs. 1 and 8, the training network can be any one of networks 40, 47, or 48. Also, in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., training traffic cannot be actual traffic) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). The examiner noted the broadest reasonable interpretation of training traffic with respect to Applicants' Specification.

41. Moreover, in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e.,

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controlling all traffic of the network) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion

42. Accordingly, **THIS ACTION IS MADE FINAL**. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

43. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

44. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARK A. MAIS whose telephone number is (571)272-3138. The examiner can normally be reached on M-Th 9am-8pm.

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45. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pankaj Kumar can be reached on 571-272-3011. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

46. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

June 8, 2009

/Mark A. Mais/

Examiner, Group Art Unit 2419

/Michael J. Moore, Jr./

Primary Examiner, Art Unit 2419